AHMED HAJHSSAN

Big Data & AI Engineering Student

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Profile

Final-year Big Data & AI Engineering student at Polytech Intl, holding a Bachelor's in Computer Science from ISI. I like working across the full lifecycle of AI projects — from data and model training to building the systems around them that make them usable. Rigorous, curious, and hands-on by nature, I am looking for a 4 to 6-month final-year internship starting in January 2027, to apply my skills to real and challenging problems.

Education

National Engineering Degree in Big Data and Artificial Intelligence 2024 – present
Polytech Intl, Tunisia

National Bachelor's Degree in Computer Science 2021 – 2024
Institut Supérieur d'Informatique, Le Kef

Baccalaureate in Mathematics 2020 – 2021
Lycée Ali Douagi, La Marsa

Professional Experience

Voice Assistant for the Tunisian Dialect, Summer internship June 2026 – Aug 2026
Galylio AI

- Built a real-time voice assistant where users speak in Tunisian dialect and receive spoken answers, powered by a **STT** → **LLM** → **TTS** pipeline with **Gemini**
- Fine-tuned **Whisper-small** with **LoRA** on Tunisian speech data to improve dialect transcription accuracy
- Fine-tuned **XTTS-v2** for natural Tunisian Arabic speech synthesis
- Designed a cascading **diacritization module** with a fine-tuned **ByT5** model for Tunisian Arabic text
- Developed the backend with **FastAPI** and **WebSocket** streaming, and a **React + TypeScript** chat app with **JWT authentication** and **MongoDB**

Projects

Retrieval-Augmented Generation Document Q&A Application Sept. 2026

- Built a **RAG** application where users upload **PDF** documents and ask questions, answered through semantic search and **Google Gemini**
- Automated document ingestion in **n8n** (text extraction, chunking, Gemini embeddings) and stored the vectors in **Supabase**
- Retrieved the most relevant chunks and designed a context-restricted prompt that answers "I don't know" when the information is missing, reducing hallucinations
- Self-hosted the pipeline with **Docker** and connected it through webhooks to a lightweight web interface

Green Eye: Intelligent Mobile Application for Plant and Disease Detection Feb. 2026 – April 2026

- Built a cross-platform mobile app where users photograph a plant to identify its species, detect diseases, chat with an AI assistant for personalized agricultural advice, and receive real-time weather alerts based on their location
- Fine-tuned **InceptionV3** on **PlantVillage** to build six deep learning models: one for plant species classification and five crop-specific disease detectors (apple, corn, grape, potato, tomato)
- Developed the app with **React Native**, **FastAPI** prediction endpoints, and **MongoDB** for data management

Technical Skills

AI & Machine Learning: Scikit-learn, TensorFlow, Keras, PyTorch, Hugging Face Transformers, LoRA, InceptionV3, Transfer Learning.
LLMs & Speech AI: Whisper, XTTS-v2, ByT5, RAG, Google Gemini, Prompt Engineering, Vector Search.
Languages: Python, JavaScript/TypeScript, C/C++, Java, SQL.
Frameworks: ReactJS, React Native, FastAPI.
Data Engineering & Storage: Pandas, NumPy, Pydantic, MySQL, MongoDB, Supabase.
Tools & Technologies: Docker, Git/GitHub, n8n, Kaggle, REST APIs, WebSocket, JWT Authentication, Webhooks.

Languages

English: B2 IELTS **French:** B2 DELF **Arabic:** Native language